

REMARKS

In response to the Office Communication dated June 22, 2006, which reinstated the previously withdrawn Office Action dated February 14, 2006, Applicant respectfully requests reconsideration of this application in light of the amendments and remarks made herein. Claims 3-9, 12-18, 23-36, 41-44 and 46-73 were previously withdrawn from examination; however, because claim 37 was found allowable, claims 41-44 are rejoined, and also found allowable. Elected claims 1, 2, 10, 11, 19-22, and 45 are canceled without prejudice. Applicant may pursue the subject matter of the canceled claims in this or other related applications. New claims 74-93 are presented herein for examination.

In brief, the present claimed invention is directed to a mobile data storage magazine for interacting with a docking station of a data storage library in such a way to at least substantially eliminate wear and tear of components that provide power and communication between the docking station and magazine in a high cycle interacting environment. The docking station includes conductors for providing electrical power and communication to the mobile magazine. The magazine comprises a magazine frame that has an opening adapted to receive a plurality of operatively interconnected disk drives. The magazine further comprises a contact element for conducting electrical power from the docking station to at least one of the plurality of disk drives when the contact element is engaged with the docking station electrical power conductor in a relationship that excludes a male and female relationship. The magazine also comprises a communication element capable of conducting data between the docking station communication conductor and at least one of the plurality of disk drives when the communication element is engaged with the docking station communication conductor in a non-male/female relationship.

Claim Objections

Claim 1 is objected to for informalities on lines 3-4; "the data cartridge magazine" should be changed to --the magazine data storage element--. Applicant has canceled claim 1 herein without prejudice, obviating the objection of this claim. Applicant may pursue the subject matter of this claim in this or other related applications.

Rejections Under 35 U.S.C. § 102

Claims 1, 2, 19 and 45 stand rejected under 35 U.S.C. § 102(e) as being anticipated by US Patent Number 6,600,703 to Emberty et al. (hereinafter referred to as Emberty). Applicant has canceled claims 1, 2, 19 and 45 herein without prejudice, obviating the objection of these claims. Applicant may pursue the subject matter of these claims in this or other related applications.

Rejections Under 35 U.S.C. § 103

Claim 22 is stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Emberty in view of an element purported as well known in the art. Applicant has canceled claim 22 herein without prejudice, obviating the objection of this claim. Applicant may pursue the subject matter of this claim in this or other related applications.

Claims 10 and 11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Emberty in view of US Patent Number 6,880,033 to Mahmoud et al. (hereinafter referred to as Mahmoud). Applicant has canceled claims 10 and 11 herein without prejudice, obviating the objection of these claims. Applicant may pursue the subject matter of these claims in this or other related applications.

Claims 20 and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Emberty in view of US Patent Number 6,845,422 to Shimada et al. (hereinafter referred to as Shimada). Applicant has canceled claims 20 and 21 herein without prejudice, obviating the objection of these claims. Applicant may pursue the subject matter of these claims in this or other related applications.

Allowable Subject Matter

Claims 37-44 have been found allowable.

New Claims Presented Herein

Applicant has amended the present application to present new claims readable on the elected Combination-Subcombination 2, directed to the interconnector structure for a magazine data storage element of the restriction requirement dated October 3, 2005. These

new claims, claims 74-93, add no new matter.

New claim 74 features a mobile data storage magazine for interacting with a docking station of a data storage library, the magazine comprising “a magazine frame comprising an opening adapted to receive a plurality of operatively interconnected disk drives; a contact element associated with said magazine frame for conducting electrical power from said docking station to at least one of said plurality of disk drives when said contact element is engaged with said docking station electrical power conductor in a relationship that excludes a male and female relationship; a communication element associated with said magazine frame capable of conducting data between said docking station communication conductor and at least one of said plurality of disk drives when said communication element is engaged with said docking station communication conductor in a relationship that excludes a male and female relationship.” This feature is disclosed, for example, in paragraphs [0311], [0315] and [0330] of Applicant’s disclosure and in FIG. 46B. None of the prior art of record, including Emberty, Mahmoud and Shimada, appears to describe, teach, or suggest the invention of claim 74, therefore Applicant respectfully submits that claim 74 is allowable.

New claim 75 depends from claim 74 and features in addition to the data storage magazine of claim 74, “further comprising a magazine cover that substantially encases said frame.” This feature is disclosed, for example, in paragraphs [0314] of Applicant’s disclosure and in FIG. 46B. None of the prior art of record, including Emberty, Mahmoud and Shimada, appears to describe, teach, or suggest the invention of claim 75, therefore Applicant respectfully submits that claim 75 is allowable.

New claim 76 depends from claim 74 and features in addition to the data storage magazine of claim 74, “said disk drives cooperate as a single storage element.” This feature is disclosed, for example, in paragraphs [0311] of Applicant’s disclosure and in FIG. 47. None of the prior art of record, including Emberty, Mahmoud and Shimada, appears to describe, teach, or suggest the invention of claim 75, therefore Applicant respectfully submits that claim 75 is allowable.

New claim 77 depends from claim 74 and features in addition to the data storage magazine of claim 74, “interconnected disk drives are inaccessible by a user when said magazine is interacting with said docking station.” This feature is disclosed, for example, in

paragraphs [0006] and [0334]-[0337] and of Applicant's disclosure and in FIG. 55A-55D. None of the prior art of record, including Emberty, Mahmoud and Shimada, appears to describe, teach, or suggest the invention of claim 77, therefore Applicant respectfully submits that claim 77 is allowable.

New claim 78 depends from claim 74 and features in addition to the data storage magazine of claim 74, "said conductors each comprise either a flexible conductive element or a substantially flat conductive pad." This feature is disclosed, for example, in paragraphs [0041] of Applicant's disclosure. None of the prior art of record, including Emberty, Mahmoud and Shimada, appears to describe, teach, or suggest the invention of claim 78, therefore Applicant respectfully submits that claim 78 is allowable.

New claim 79 depends from claim 78 and features in addition to the data storage magazine of claim 78, "said flexible conductive element is a spring loaded pin." This feature is disclosed, for example, in paragraphs [0041] of Applicant's disclosure. None of the prior art of record, including Emberty, Mahmoud and Shimada, appears to describe, teach, or suggest the invention of claim 79, therefore Applicant respectfully submits that claim 79 is allowable.

New claim 80 depends from claim 74 and features in addition to the data storage magazine of claim 74, "said contact element is a substantially conductive pad adapted to engage a spring loaded pin." This feature is disclosed, for example, in paragraphs [0041] of Applicant's disclosure. None of the prior art of record, including Emberty, Mahmoud and Shimada, appears to describe, teach, or suggest the invention of claim 80, therefore Applicant respectfully submits that claim 80 is allowable.

New claim 81 depends from claim 74 and features in addition to the data storage magazine of claim 74, "said communication element is adapted to receive communication through either electrical or optical transmission." This feature is disclosed, for example, in paragraphs [0320] of Applicant's disclosure. None of the prior art of record, including Emberty, Mahmoud and Shimada, appears to describe, teach, or suggest the invention of claim 81, therefore Applicant respectfully submits that claim 81 is allowable.

New claim 82 depends from claim 74 and features in addition to the data storage magazine of claim 74, "said mobile data storage magazine is capable of coexisting with at

least one data cartridge magazine comprised by a tape magazine library wherein said mobile data storage magazine is capable of being transferred within said tape magazine library by a robotic element from at least a shelf system to at least said docking station.” This feature is disclosed, for example, in paragraphs [0310] of Applicant’s disclosure. None of the prior art of record, including Emberty, Mahmoud and Shimada, appears to describe, teach, or suggest the invention of claim 82, therefore Applicant respectfully submits that claim 82 is allowable.

New claim 83 depends from claim 82 and features in addition to the data storage magazine of claim 82, “said mobile data storage magazine is substantially the same size and shape as a data cartridge magazine sized to fit substantially within said docking station and that is capable of holding at least two data cartridges.” This feature is disclosed, for example, in paragraphs [0310] of Applicant’s disclosure. None of the prior art of record, including Emberty, Mahmoud and Shimada, appears to describe, teach, or suggest the invention of claim 83, therefore Applicant respectfully submits that claim 83 is allowable.

New claim 84 features “A method for engaging a mobile data storage magazine with a docking station of a data storage library, comprising the method steps of: engaging at least one docking station contact element comprised by said docking station with at least one magazine contact element contact element in a non male/female relationship to establish electrical connection; providing electrical power to at least one of a plurality of disk drives capable of being disposed in said mobile data storage magazine; establishing communication with at least said docking station via a communication connection established between at least one communication element associated with said magazine and a compatible communication element associated with said docking station.” This feature is disclosed, for example, in paragraphs [0311], [0313], [0315], [0330] and [0334]-[0337] and of Applicant’s disclosure and in FIGS. 46B, 55A-55D. None of the prior art of record, including Emberty, Mahmoud and Shimada, appears to describe, teach, or suggest the invention of claim 84, therefore Applicant respectfully submits that claim 84 is allowable.

New claim 85 depends from claim 84 and features in addition to the data storage magazine of claim 84, “further comprising the method step of storing data on at least one of said plurality of disk drives.” This feature is disclosed, for example, in paragraphs [0310] of Applicant’s disclosure. None of the prior art of record, including Emberty, Mahmoud and

Shimada, appears to describe, teach, or suggest the invention of claim 85, therefore Applicant respectfully submits that claim 85 is allowable.

New claim 86 depends from claim 85 and features in addition to the data storage magazine of claim 85, “said communication connection is established with non male/female contact elements when in contact.” This feature is disclosed, for example, in paragraphs [0320] of Applicant’s disclosure. None of the prior art of record, including Emberty, Mahmoud and Shimada, appears to describe, teach, or suggest the invention of claim 86, therefore Applicant respectfully submits that claim 86 is allowable.

New claim 87 depends from claim 86 and features in addition to the data storage magazine of claim 86, “said communication connection is established through either electrical or optical transmission.” This feature is disclosed, for example, in paragraphs [0320] of Applicant’s disclosure. None of the prior art of record, including Emberty, Mahmoud and Shimada, appears to describe, teach, or suggest the invention of claim 87, therefore Applicant respectfully submits that claim 87 is allowable.

New claim 88 depends from claim 84 and features in addition to the data storage magazine of claim 84, “wherein said electrical connection is established through the engagement of a flexible pin and substantially flat pad combination.” This feature is disclosed, for example, in paragraphs [0320] of Applicant’s disclosure. None of the prior art of record, including Emberty, Mahmoud and Shimada, appears to describe, teach, or suggest the invention of claim 88, therefore Applicant respectfully submits that claim 88 is allowable.

New claim 89 depends from claim 84 and features in addition to the data storage magazine of claim 84, “further comprising the method step of transferring said magazine from a storage location in a tape magazine library to said docking station in said tape library by a robotic element.” This feature is disclosed, for example, in paragraphs [0330] of Applicant’s disclosure. None of the prior art of record, including Emberty, Mahmoud and Shimada, appears to describe, teach, or suggest the invention of claim 89, therefore Applicant respectfully submits that claim 89 is allowable.

New claim 90 features “A mobile data storage magazine, for interacting with a docking station, comprising: a magazine frame defining a space wherein a plurality of operatively interconnected disk drives can be disposed; a first contact element associated with

said magazine frame capable of conducting electrical power to at least one of said plurality of disk drives when engaged with a second contact element associated with said docking station wherein said first and second contact elements are adapted to cooperate in a non male/female relationship; a first communication element associated with said magazine frame capable of conducting data between at least one of said plurality of disk drives and said docking station when said first communication element is operatively linked to a second communication element associated with said docking station.” This feature is disclosed, for example, in paragraphs [0311], [0313], [0315], [0330] and [0334]-[0337] and of Applicant’s disclosure and in FIGS. 46B, 55A-55D. None of the prior art of record, including Emberty, Mahmoud and Shimada, appears to describe, teach, or suggest the invention of claim 90, therefore Applicant respectfully submits that claim 90 is allowable.

New claim 91 depends from claim 90 and features in addition to the data storage magazine of claim 90, “said mobile data storage magazine is adapted to be received by an opening in said docking station.” This feature is disclosed, for example, in paragraphs [0334]-[0337] and of Applicant’s disclosure and in FIG. 55A-55D. None of the prior art of record, including Emberty, Mahmoud and Shimada, appears to describe, teach, or suggest the invention of claim 91, therefore Applicant respectfully submits that claim 91 is allowable.

New claim 92 depends from claim 91 and features in addition to the data storage magazine of claim 91, “said docking station is capable of pulling said mobile data storage magazine into said docking station by a pulling means to engage said first and second contact elements.” This feature is disclosed, for example, in paragraphs [0334]-[0337] and of Applicant’s disclosure and in FIG. 55A-55D. None of the prior art of record, including Emberty, Mahmoud and Shimada, appears to describe, teach, or suggest the invention of claim 92, therefore Applicant respectfully submits that claim 92 is allowable.

New claim 93 depends from claim 92 and features in addition to the data storage magazine of claim 92, “said first contact element is a substantially flat conductive pad and said second contact element is a flexible conductive member adapted to flexibly comply with said conductive pad upon engagement.” This feature is disclosed, for example, in paragraph [0320] and [0330]. None of the prior art of record, including Emberty, Mahmoud and Shimada, appears to describe, teach, or suggest the invention of claim 93, therefore Applicant respectfully submits that claim 93 is allowable.

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Authorization To Charge Necessary Fees

The Commissioner is hereby authorized to charge any additional necessary fees associated with this submission, or credit any overpayment, to Deposit Account No. 50-0289.

Respectfully submitted,

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Kenneth Altshuler
Reg. No. 50,551

Correspondence Address

WALL MARJAMA & BILINSKI LLP
101 South Salina Street, Suite 400
Syracuse, New York 13202
Telephone: (315) 425-9000
Facsimile: (315) 425-9114

Customer No.: 20874

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